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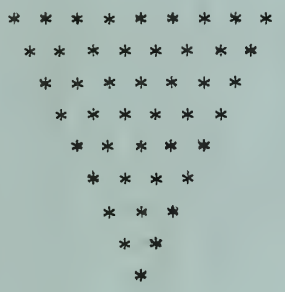
SNOW SURVEYS AND IRRIGATION WATER FORECASTS

for the

RIO GRANDE DRAINAGE BASIN

April 1, 1942



Issued by the
United States Department of Agriculture
Soil Conservation Service
Division of Irrigation
In Cooperation with
The Colorado Agricultural Experiment Station
Colorado State College
Fort Collins, Colorado

April 10, 1942

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RIO GRANDE BASIN

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The following data pertaining to snow surveys and irrigation water-supply forecasts are provided by the Division of Irrigation, Soil Conservation Service of the U.S. Department of Agriculture, in cooperation with other Federal Bureaus, State Departments, and local organizations. The snow measurements are made principally by field personnel of the U. S. Forest Service, U. S. Indian Service and Colorado State Engineer. This work is otherwise conducted cooperatively with the State Engineers of Colorado and New Mexico, Colorado Agricultural Experiment Station, and various municipalities, irrigation associations and others. Precipitation records are supplied by the U. S. Weather Bureau.

PRECIPITATION DATA

WATERSHED	STATE	Precipitation October 1 to March 31	Departure from Normal	Precipitation March	Departure from Normal
		Inches	Inches	Inches	Inches
Canadian	New Mexico	4.99	+0.91	0.56	-0.24
Rio Grande	Colorado	5.84	+0.07	2.18	+0.27
Rio Grande	New Mexico	7.74	+1.14	1.17	-0.09
Pecos	New Mexico	5.68	+1.25	0.29	-0.53

Precipitation during March was below normal except over the watershed of the Rio Grande in Colorado. The accumulated precipitation on all watersheds is still above normal due to storms early in the winter.

SUMMARY OF APRIL 1 SNOW SURVEYS AND COMPARISON OF DATA WITH THAT OF PREVIOUS YEARS BY WATERSHEDS

WATERSHEDS	Snow Depth			Water Content			Number Courses in Average	Snow Density			1942 Water Content in percent of	
	Six year Avg.	1941	1942	Six year Avg.*	1941	1942		Six year Avg.*	1941	1942	Six year Avg.*	1941
	In.	In.	In.	In.	In.	In.		Percent	Percent	Percent		
Rio Grande	29.1	46.7	32.6	9.8	16.2	10.0	21	34	35	31	102	62
Canadian River	14.5	33.4	13.4	4.6	11.6	4.3	2	32	35	32	94	37

*Some for shorter periods

WATER SUPPLY OUTLOOK

RIO GRANDE. On the watershed of the Rio Grande, in Colorado and New Mexico, the recent snow surveys on 21 courses show an average water content of 10.0 inches as compared with 16.2 inches a year ago and 9.8 inches as the six-year average. The April-July runoff this season will be less than last year; but, if rapid melting occurs due to above-normal temperatures, high stage of the river will be reached. The present outlook does not indicate sustained high water as occurred in 1941. Reservoirs in the San Luis Valley at this time aggregate 141,000 acre-feet in storage, as against 33,600 a year ago. Elephant Butte Reservoir, on the Rio Grande, has 1,887,000 acre-feet in storage, which is at about 83 percent of capacity. Caballo Reservoir now has 314,000 acre-feet in storage, which is 86 percent of capacity. Water is being released from the El Vado Reservoir to provide space for the coming spring runoff. Because of the present near-full reservoir storage, together with an expected normal summer river flow, this season's irrigation supply in the Rio Grande Valley is well assured. Soil moisture throughout the irrigated areas of the San Luis Valley and along this stream in New Mexico is good to excellent at this time. The winter flow of the river and tributaries, has been normal or better.

CANADIAN AND PECOS RIVERS. The water content of the snow on the headwaters of these streams is less than one-half the amount observed last year at this time but in close agreement with the past six-year average. The present outlook for the coming season's irrigation water supply from snow indicates much less runoff than in 1941. The April-July flow for these streams will closely approximate the normal for this season. Storage in the Conchas Reservoir, on the Canadian, near Tucumcari, is now 399,300 acre-feet, as compared with 126,800 a year ago. For the Carlsbad Project reservoirs, in the lower Pecos Valley, the present storage totals 187,000 acre-feet and 60,200 last year at this time. Soil moisture generally over these areas is fair to good.

RIO GRANDE WATERSHED

Summary of Federal and State Cooperative Snow Surveys

Issued April 10, 1942, at Fort Collins, Colorado

No.	Main Drainage and Snow Course	Local Drainage	Location: State	Locality	Description	Elev.	National Forest	Apr. 1 Snow Cover Measurements: Av. Snow Depth Av.@	1941	1942	Av. Water Content Av.@	1941	1942
	RIO GRANDE							In.	In.	In.	In.	In.	In.
26	Wolf Creek Pass	South Fork	Colo.	Wolf Cr.Pass	4-37N-2E	10000	Rio Grande	85.5	106.9	82.9	30.5	37.2	29.1
27	Upper Rio Grande	Rio Grande	"	RioGrande Res.	13-40N-4W	9350	" "	20.1	33.0	23.5	4.6	8.0	5.7
47	Silver Lakes	Alamosa R.	"	1mi.S.Silver L.	15-36N-5E	9600	" "	19.7	28.7	18.8	5.4	8.7	4.6
49	River Springs	Conejos R.	"	10mi.W.Mogote	25-33N-6E	9300	" "	24.5	27.9	24.6	7.1	6.8	6.7
74	LaVeta Pass #2	SanCristo Cr.	"	LaVeta Pass	22-28S-70W	9300	SanCristoGr	26.4	41.5	27.5	7.8	13.0	7.2
76	Summitville	Wightman Cr.	"	Summitville	30-37N-4E	11500	Rio Grande	67.9	95.5	82.5	20.6	31.0	22.1
77	Cumbres Pass #2	Los Pinos R.	"	Cumbres Pass	17-32N-5E	10000	" "	73.7	99.8	71.1	28.6	37.0	24.5
80	Santa Maria	N.Clear Cr.	"	Santa Maria Res.	8-41N-2W	9700	" "	10.4	25.0	16.6	2.7	7.3	3.4
82	Culebra	Culebra R.	"	12mi.E.SanLuis	37.2N105.2W	10000	SanCristoGr	40.6	55.2	38.3	13.2	16.6	11.4
84	Fort Garland	Big Ute Cr.	"	6mi.N.Ft.Garland	13-29N-72W	8200	" " "	--	37.0		--	14.3	
1	Red River	Red River	N.Mex.	6mi.SE.RedRiver	29-28N-15E	9500	Carson	26.5	44.8	29.3	9.0	17.6	8.5
2	Taos Canyon	Rio de Taos	"	14mi.E.Taos	10-25N-15E	9000	"	19.1	39.3	24.0	6.4	13.4	7.4
4	Aspen Grove	Rio En Medio	"	10mi.NE.Santa Fe	12-18N-10E	9100	Santa Fe	11.0	32.1	15.5	3.4	10.3	4.4
5	Lee Ranch	Jemez Cr.	"	5mi.NW.Bland	3-18N-4E	9050	" "	26.3	64.1	31.1	8.8	24.3	9.4
6	Canjilon	Canjilon Cr.	"	8mi.NE.Canjilon	4-26N-6E	9500	Carson	54.9	80.5	58.6	24.2	37.9	23.9
7	Rio Nutrias	Rio Nutrias	"	10mi.SE.ParkView	6-27N-5E	7900	"	10.9	23.3	17.0	3.6	9.0	3.8
8	Panchuela	Panchuela Cr.	"	1mi.N.Cowles	34-19N-12E	8500	Santa Fe	6.1	25.3	9.1	2.0	8.2	3.0
9	Hematite Park*	Red River	"	3mi.SE.Red.R.	8-28N-15E	9500	Carson	17.5	35.2	20.6	5.6	13.2	5.9
12	Tres Ritos	Agua Piedra	"	7mi.W.Holman	23-22N-13E	9000	"	16.1	34.6	31.0	5.2	10.7	10.0
15	Pay Role	Rock Creek	"	4mi.SE.Hopewell	16-28N-7E	10000	"	34.5	56.9	34.2	10.8	18.6	9.6
16	Jicarilla	Rock Lake Cr.	"	15mi.S.Dulce	9-29N-1W	8500	JicarillaR	8.7	14.4	11.7	3.0	5.3	3.6
17	Chama Divide	Willow Creek	"	6mi.W.Chama	36.9N106.7W	7750	Off Forest	11.0	16.5	17.1	3.9	6.8	5.1
18	Chamita	Chamita Cr.	"	6mi.NW.Chama	36.9N106.7W	8500	" "	36.5	--	36.5	11.0	--	11.0
19	Cordova	Cordova Canyon	"	2mi.W.TresRitos	22-22N-13E	10100	Carson	--	--	53.2	--	--	16.8
20	Panchuela #2	Panchuela Cr.	"	2mi.N.Cowles	27-19N-12E	8300	Santa Fe	--	--	12.3	--	--	4.3
21	Big Tesuque	Big TesuqueCr.	"	10mi.NE.Santa Fe	17-18N-11E	10000	" "	--	--	21.1	--	--	7.3
					Average for drainage			29.1	46.7	32.6	9.8	16.2	10.0
	CANADIAN												
9	Hematite Park	Moreno Creek	N.Mex.	3mi.SE.Red R.	8-28N-15E	9500	Carson	17.5	35.2	20.6	5.6	13.2	5.9
10	Ocate Mesa	Ocate Creek	"	3mi.E.Black L.	25-24N-16E	9200	OffForest	11.5	31.6	6.1	3.7	9.9	2.7
					Average for drainage			14.5	33.4	13.4	4.6	11.6	4.3

*On adjacent drainage

@Average for period of record.